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## EXECUTIVE SUMMARY

Smoking is the leading cause of preventable disease, disability and death in our society. "In recent years at least one-quarter of all deaths among persons aged 35-84 in Canada were attributable to tobacco use" [5]. There are 35,000 deaths annually in Canada as a result of tobacco use [3]. Smoking has been found to be a greater risk factor in various diseases than obesity or environmental pollution [8, 9].

In order to determine the extent of the problem in Nova Scotia, and to collect baseline data, the Nova Scotia Department of Health and Fitness (DOHF) conducted a telephone survey in February of 1990. Adults, aged 17 and over, were randomly selected from households which were selected using a list of randomly generated telephone numbers.

In a future document the data from the DOHF telephone survey will be combined with data from the Nova Scotia Council on Smoking and Health (COSH) school survey to provide an overview of the situation in Nova Scotia.

There are four main objectives to the two smoking prevalence surveys, i.e., the DOHF telephone survey and the COSH school survey:

1. To obtain information on smoking prevalence in the province of Nova Scotia;
2. To determine why students start to smoke;
3. To determine why adults continue to smoke; and
4. To determine how many people have tried to quit smoking, how many times they have tried to quit and what methods people

have used to help them quit.

The results of the DOHF survey can be summarized as follows:

- 28% of the Nova Scotia population sampled were regular smokers (i.e., at least 1 cigarette per day);
- males and females had the same smoking prevalence rate;
- current smokers were younger, less educated and had lower income levels than former or never smokers;
- most smokers had tried at least once to quit smoking;
- the main reason for trying to quit smoking was a person's present and/or future health;
- most people used 'cold turkey' as a method to quit;
- the main reason for starting to smoke again was because of withdrawal symptoms (mainly irritability);
- the next most important reason for starting to smoke again was because family and/or friends smoked;
- the sample were aware that smoking is a risk factor in lung cancer and heart disease, but they were not as aware that tobacco use is more dangerous to their health than other risk factors: such as obesity and environmental pollution [8, 9]; and
- smoking restrictions, both in public and in the workplace, were popular.

The data from this survey provide useful information that can be used by the DOHF to plan health promotion strategies. The information could also be used by various groups, throughout the province, who are fighting for a smoke free environment.

# 1. INTRODUCTION

## 1.1 BACKGROUND

Smoking is the leading cause of preventable disease, disability and death in our society. "In recent years at least one-quarter of all deaths among persons aged 35-84 in Canada were attributable to tobacco use" [5]. There are 35,000 deaths annually in Canada as a result of tobacco use [3].

Smoking is a known risk factor in a number of diseases: lung cancer, cardiovascular diseases (especially coronary heart disease), chronic lung disease and others. Also, second hand smoke is a known health risk for lung cancer and respiratory illnesses in non-smokers. The differences in respiratory illnesses is most notable in infants of smokers compared to infants of non-smokers [11, 14].

In an effort to obtain a better understanding of smoking prevalence in the province of Nova Scotia, a telephone survey was undertaken by the Department of Health and Fitness (DOHF) in February of 1990. Data from this survey will be combined with data from the Nova Scotia Council on Smoking and Health's (COSH) school survey, which was administered in April/May 1990. The data from these two surveys will provide the DOHF with extensive smoking prevalence data for Nova Scotia.

## 1.2 OBJECTIVES

There are four main objectives to the two smoking prevalence surveys, i.e., the DOHF telephone survey and the COSH school

survey:

1. To obtain information on smoking prevalence in the province of Nova Scotia;

2. To determine why students start to smoke;

3. To determine why adults continue to smoke; and

4. To determine how many people have tried to quit smoking, how many times they have tried to quit and what methods people have used to help them quit.

Also included in the telephone survey were questions relating to the Department's "Healthy Lifestyles" television ad campaign. There were two main objectives relating to this part of the questionnaire:

5. To determine if people are seeing the DOHF ad campaign on television; and

6. To determine if the population is receiving the intended message from the ad.

This report deals specifically with objective 1 for adults, aged 17 and over, and objectives 3 and 4. Data from the COSH school survey are forthcoming and will deal with objectives 1 for students and objective 2. The results of the ad campaign questions are summarized elsewhere: "DOHF 'Healthy Lifestyles': Ad Campaign Evaluation".

## 1.3 STEERING COMMITTEE

The overall project was directed under the guidance of a steering committee consisting of the following people:

Dr. Wayne Sullivan, Committee Chair, Administrator of Community Health Services, DOHF

Dr. John LeBlanc, Epidemiologist, DOHF

Ms. Theresa Marie Underhill, Director of Health Promotion and Fitness, DOHF

Ms. Brenda Ryan, Director of Research and Statistics, DOHF

Ms. Terry Mills, Program Evaluation Analyst, Research and Statistics, DOHF

## 2. METHODOLOGY

### 2.1 SURVEY QUESTIONNAIRE

A number of surveys were reviewed for the purpose of obtaining questions which relate to the project objectives [13, 16, 20, 23]. The most useful survey was found to be the 1986 Adult Use of Tobacco Survey (AUTS) [23]. The AUTS has been administered, by telephone, in the United States 5 times in the past 25 years. In the 1986 AUTS questions were worded as in the past in order to provide historical comparability [15]. The survey questionnaire was designed and circulated to the steering committee for comment. The final survey questionnaire is in Appendix 1.

### 2.2 PRETESTING

The survey was pretested in February of 1990 on a sample of 15 adults. In the pretesting of the survey it was suggested that the reference to smoking in the introduction and the placing of the smoking questions ahead of the ad questions may bias the

results of the ad questions. Therefore, the ad questions were moved ahead of the smoking questions and all reference to smoking was removed from the introduction.

## 2.3 SAMPLE SIZE

When considering sample size the purpose of the survey must be considered. The telephone survey will be used to measure smoking prevalence and to measure changes in smoking prevalence in Nova Scotia over time. In order to detect a significant difference in smoking prevalence rates, with 80% confidence, from say 50% to 45% the projected sample size would have to be 3130 for 2 independent surveys or 1565 per survey. The sample size was rounded up to 1600 for this survey.

## 2.4 SAMPLE SELECTION

A random sample of 5000 telephone numbers was purchased from Applied Marketing Statistics (AMS) of Toronto. The random selection process was based upon the population in each of the counties so that a proportionate distribution of telephone numbers was produced.

The sample provided by AMS was based upon Census Sub-divisions. A number of live telephone numbers were allocated to each Sub-division. The total number allocated was based upon the number of Enumeration Areas within the Sub-division. These live telephone numbers were expanded to a cluster of numbers to approximate random digit dialling. It is estimated that this

procedure cuts waste by about two-thirds compared to random digit dialling, since "live numbers are associated with clumps of live numbers" [1].

The telephone listing included business and unlisted numbers, and also allowed for access to new numbers.

In the telephone listing the numbers were grouped by Census Sub-division. In order to ensure representation from all Sub-divisions every third number on the telephone listing was dialled. When the telephone listing for a county was completed without completing the required number of questionnaires the process was repeated starting from the top of the listing.[1]

It was felt that the telephone would not necessarily be answered randomly by an adult in the household, therefore, a table of random numbers by household size was generated (Appendix 2). This table was used by the interviewers to randomly select an adult in the household. If the chosen adult was not available the interviewers attempted to randomly select another adult in the household.

## 2.5 HIRING AND TRAINING OF INTERVIEWERS

An advertisement for interviewers was posted at the student employment centres at Dalhousie, St. Mary's and Mount Saint Vincent. A number of students responded to the job posting and interviews were held. Ten interviewers were hired initially. Two

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[1] Note that it turns out that this method did not have to be utilized since most of the telephone numbers were dialled.

more interviewers were hired after two days of interviewing, as it was determined that timelines would not be met with only 10 interviewers.

All interviewers were given a training session on their first night of work. The training session included: a discussion of the survey form, practice sessions, a discussion of the ad campaign and a discussion of the coding requirements. Approximately half of the first evening was spent on training.

## 2.6 ADMINISTRATION OF SURVEY

Administration of the survey took place from February 18th to March 1st, 1990. The survey was administered Sunday to Thursday evenings from 6:30 to 9:30 p.m.

Interviewers were supervised and monitored while the survey was being conducted.

## 2.7 CODING AND DATA ENTRY

Interviewers were responsible for coding the questionnaires immediately upon completion of each interview.

The data were put onto a computer file using dBASE III Plus. One of the interviewers and a staff of the Research and Statistics Branch entered the data onto the computer. Some of the data entry was undertaken on the days the survey was being conducted and the rest completed upon conclusion of the survey.

## 2.8 DATA QUALITY

To ensure data quality the interviewers' conversations were monitored throughout the administration of the survey. In addition, a sample of the previous evenings completed surveys were checked for completeness, consistency and accuracy of responses and coding. Undertaking the data entry while the survey was being administered also provided an opportunity to check for inconsistencies. Any inconsistencies were brought to the attention of the interviewer(s) and resolved.

## 2.9 STUDY LIMITATIONS

There were a number of limitations to the study that are worth mentioning:

1. The random sample of telephone numbers excluded households without telephones. In 1989 less than 2% of the households in Nova Scotia did not have telephones (6,000 of 309,000 households).[2] This may result in a small bias as the smoking prevalence rate and ownership of telephones are both related to socioeconomic status.

2. The samples were by household and not by individual, therefore, people from large households had less of a chance of being included in the study. However, an examination of the data found that the overall smoking prevalence rate did not change after adjusting for the number of adults in the household.

3. No information was gathered on the 30% who refused to participate in the survey, therefore, there is no way of knowing

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[2] Source: Statistics Canada.

if their smoking prevalence rate was different from the sample.

## 3. DATA ANALYSIS

The data were entered onto a computer file using dBASE III Plus then converted to a text file and put on the Government's main frame computer. SAS was used to analyze the data. The results of the analysis are presented below.

It was assumed that the random selection of households and adults within households[3] resulted in a representative sample of the Nova Scotia population.

### 3.1 RESPONSE RATE

Of the telephone numbers randomly generated 4595 numbers were dialled over the two week period. Half (50%) of these numbers were answered by someone who resided in a private household. Of those households contacted there was a refusal rate of 30% (Table I, Appendix 4).

### 3.2 DEMOGRAPHICS OF THE SAMPLE

Demographic data for the sample and the Nova Scotia population are reported in Tables I-IV of Appendix 3.

The data by age and sex show that the younger age groups (17-19 and 20-24) were under-represented by the sample, while the age group 25-34 was over-represented. The percentage of the sample in

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[3] The interviewers had indicated that most of the questionnaires were completed by the randomly selected adult.

the other age groups was similar to the Nova Scotia population (Table I, Appendix 3). There was a higher percentage of females than males in the sample compared to the Nova Scotia population, 57% versus 51%, respectively.

The distribution of the sample by household income shows that those with incomes under $10,000 were under-represented (Table II, Appendix 3). The distribution of the sample for the other income groups was similar to the Nova Scotia population.

Note that on the survey form there were 8 educational groupings, these were collapsed into 5 to be consistent with the Labour Force Survey [12]: 0-8 (less than grade 9); some secondary, no post secondary (9-12 with/without a high school certificate); some post secondary (other non-university without certificate and university without a certificate); post secondary (trade certificate/diploma and other non-university with a certificate/diploma); and university (with a degree).

The distribution by educational level shows that the under-represented groups were: grades 0-8, some post secondary and post secondary. The groups that were over-represented were: some secondary (no post secondary) and university degree. (Table III, Appendix 3)

The distribution of the sample by county was very similar to the distribution of the Nova Scotia population by county (Table IV, Appendix 3). This verifies that the sample was selected according to the population distribution of the counties.

## 3.3 SMOKING STATUS AND QUIT RATIOS

At the time the survey was administered 28% of the sample were current smokers (Table 1, p. 22). The 95% confidence interval for the smoking prevalence rate for adults in Nova Scotia was 26% to 30%.

One-fifth of the sample (21%) were former smokers (Table 1, p. 22). Therefore, a little over two-fifths (42%) of ever (former and current) smokers had quit (this is referred to as the 'quit ratio' in the tables).

The smoking prevalence rates for males and females were quite similar (Table 2, p. 23). It is interesting to note here that in the 1986 Labour Force Survey males, compared to females, had a higher percentage of regular smokers, 32.7% versus 28.7% respectively [12].

The percentage of never smokers was higher ($p<.003$) for females (55%) compared to males (46%) (Table 2, p. 23). While the quit ratio[4] for females was lower than that for males, .38 versus .47 respectively. Therefore, although fewer women, than men, have ever smoked women who take up smoking have a stronger tendency to continue.

The highest percentage of current smokers were: in the 25-44 age group; with no post secondary education; and whose yearly household income was in the $10,000 - $19,999 range (Table 2, p. 23).

Differences were found between the catchment areas of the

---

[4] The ratio of former smokers to former plus current smokers.

Health Units. The highest percentage of current smokers was on Cape Breton Island (35%) [higher (p=.014) than the sample] and the lowest percentage in the Lunenburg-Queens Health Unit (21%) (Table 3, p. 24). There were also differences found between the counties within the Health Units (Table II, Appendix 4). Four counties reported smoking rates that were over 35%, the highest being Guysborough (48%) [higher (p=.043) than the sample], followed by Richmond (41%), Shelburne (38%) and Cumberland (36%).

### Demographics by Smoking Status

Former smokers were older than never smokers who were older than current smokers. Non-smokers (former and never smokers) had higher educational levels and higher income levels than current smokers (Table 4, p. 25). These data are consistent with the 1986 Labour Force Survey. Results from that survey indicated that people "within lower socioeconomic groups are more likely to be regular smokers than their counterparts in upper socioeconomic groups" [6, p.36].

## 3.4 AMOUNT SMOKED

Overall, current smokers in Nova Scotia smoked an average of 19 cigarettes per day (Table 5, p. 26). Males smoked 21 cigarettes per day, and females 17 cigarettes per day.

Over two-thirds (68%) of the current smokers in Nova Scotia smoked between 11 and 25 cigarettes per day (Table 5, p. 26). This was comparable to the Canadian figure for 1986. The percentage who

smoked more than 25 cigarettes per day (8%) was lower than that reported in 1986, for both Canada (12%) and the Atlantic Region (14%). [12]

The average number of cigarettes smoked per day increased with age, until the 65+ age group; decreased with education level; and decreased with income: except for the $40,000-$49,999 group which had the highest average (Table III, Appendix 4).

## 3.5 QUIT ATTEMPTS

### 3.5.1 Smoking Spectrum

The smoking spectrum is used to categorize quitting smoking according to the smokers intention to quit and the status of their most recent quit attempt. Prochaska and DiClemente used 5 stages to classify quitting smoking: 1) pre-contemplation, 2) contemplation, 3) action, 4) maintenance and 5) relapse [21]. These categories are more useful in a longitudinal study.

For cross-sectional studies, such as this one, the smoking process can be categorized into current smoking status and duration of previous quit attempts, as in the 1989 Surgeon General's Report [21]. The data gathered on the DOHF Smoking Survey allows smokers to be categorized into eight groups:

1) never smokers;

2) former smokers who had quit for 4+ months;

3) former smokers who had quit for 0-3 months (in the past year);

4) current smokers who relapsed after being off cigarettes for

7+ days in the past year;

5) current smokers who relapsed after being off cigarettes for 1-6 days in the past year;

6) current smokers who had not tried to quit in the past year;

7) current smokers who had thought about quitting but never tried; and

8) current smokers who had never tried or never thought about quitting.

Table 6 (p. 27) shows the smoking spectrum for Nova Scotia. From this table it can be seen that over one-third (37%) of "ever smokers" were former smokers who had quit for 4 or more months. One-fifth (20%) of ever smokers were current smokers who had relapsed after being off cigarettes for at least 7 days in the past year.

### 3.5.2 Number of Quit Attempts

Two-thirds (63%) of former smokers were able to quit after 1-2 serious quit attempts (Table 7, p. 27). Half of current smokers had tried at least three times to quit smoking.

These data suggest two possibilities. One, that current smokers are not simply potential former smokers who have not tired to quit enough times but may differ in factors such as the degree of addiction or motivation to quit. Or two, that the definition of 'serious quit attempt' is different for former and current smokers.

### 3.5.3 Reasons for Quitting

The majority (89%) of current and former smokers cited their present and/or future health as being somewhat important or very important as a reason to quit smoking (Table 8, p. 28). Most of these cited their present health as a reason to quit smoking.

Almost two-thirds (64%) of ever smokers cited the cost of cigarettes as a reason why they wanted to quit (Table 8, p. 28). Half of current smokers cited this as a very important reason to quit. The cost of cigarettes was cited more as a reason to quit smoking by those with lower income than by the higher income groups (Table 9, p. 29). The percentage of the sample who cited this reason decreased as household income increased.

Over half (59%) of ever smokers said that one of the reasons why they wanted to quit was because they considered smoking a dirty habit (Table 8, p. 28).

Advice from the physician was cited more as a reason to quit for the older age groups (25% for 55+) than the younger age groups (15% or less for under 55) (Table 10, p. 29).

Note that the responses for concern for children's health, pregnancy and setting a good example for your children are misleading since the not important category includes those respondents who did not have children or were not around someone who was pregnant. There is no way of distinguishing between the two categories.

### 3.5.4 Reasons for Starting Again

Irritability was cited the most (by 60% of the ever smokers) as a reason to start smoking again (Table 11, p. 30). This reason was more important for females than males.

The next most cited reason was that family and/or friends smoked; cited by half (52%) of the ever smokers. Again this reason was more important for females than males.

### 3.5.5 Methods Used to Quit

Most (89%) of the ever smokers tried 'cold turkey' as a method to quit smoking (Table 12, p. 31). The next most popular method used was 'gradually decreasing the number of cigarettes smoked' (26%).

## 3.6 ATTITUDES AND KNOWLEDGE RELATED TO SMOKING

### 3.6.1 Feelings on Smoking Prevalence

Only one-third (30%) of the sample felt that there was too much fuss being made over the degree of smoking (Table 13, p. 32).

Almost two-thirds of the sample correctly believed that children of smokers were more likely to smoke than children of non-smokers (Table 13, p. 32). A lower percentage of the older age groups, than the younger age groups, agreed with this statement (Table 14, p. 33).

About half of the sample felt that fewer young people were starting to smoke (47%) and that if cigarettes were not advertised anywhere fewer young people would start to smoke (47%) (Table 13,

p. 32).

### 3.6.2 Health Hazards of Smoking

The majority of the sample were aware of the health hazards of smoking: in terms of lung cancer (93%), that it may harm an unborn baby (92%), that it is a risk factor in bronchitis (85%) and heart disease (85%) (Table 13, p. 32). The sample were not as aware that children of smokers have more chest infections than children of non-smokers, only 60% of the respondents agreed that this was true. The data showed that 47% of the households with small children (under 5 years of age) at home had someone who smoked at home.

Just under one-third (29%) of the sample felt that air pollution was a greater health risk than smoking (Table 13, p. 32). Less than one-fifth (17%) of the sample felt that being 20 pounds overweight was a greater health risk than smoking.

One-quarter of the sample felt that smoking helps control weight (Table 13, p. 32). More of the sample in the older age groups, than in the younger age groups, agreed with the statement that smoking helps control weight (Table 14, p. 33).

One-third (35%) of the sample believed that it would take 1-5 years after someone quits smoking for their health to return to that of a non-smoker (Table 15, p. 33). One-tenth (9%) believed that the health of the smoker would never return to that of a non-smoker.

### 3.6.3 Smoking Restrictions

Most of the sample (73%) agreed that municipalities should pass by-laws restricting smoking in public places, only half of the current smokers (Table 13, p. 32). The majority (91%) of the sample felt that people should only smoke in designated areas. Only 10% of the sample felt that people should be able to smoke at work anytime they like.

Half (51%) of the sample believed that smoking restrictions help people to quit smoking.

### 3.6.4 Role of DOHF

Most (57%) of the sample believed that the DOHF should play a more active role in regards to cigarette smoking (Table 16, p. 33). As one might expect there were different responses depending upon a person's smoking status: 63% of never smokers felt that the DOHF should be more active, 55% of former smokers and 47% of current smokers (Table X, Appendix 4).

## 4. HISTORICAL TRENDS

From 1979 to 1990 there was a 13 percentage point drop in smoking prevalence in Nova Scotia (Table 17 [p. 34] and Figure 1). The drop in smoking prevalence from 1979 to 1981 was slightly higher than the drop in smoking prevalence from 1981 to 1990.

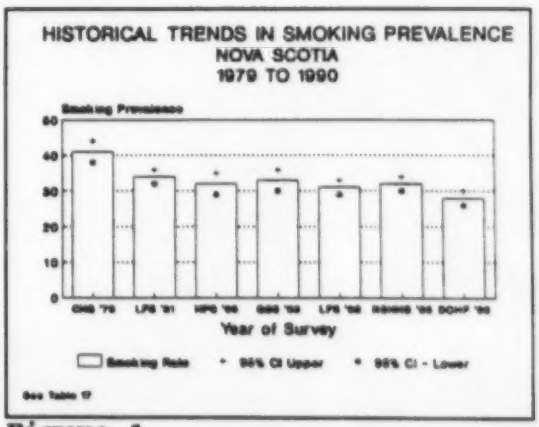


Figure 1
Various sources.

(Note that caution must be taken when comparing smoking prevalence rates from different surveys since different survey methodologies were utilized.)

For all regions in Canada, prevalence rates from 1966 to 1986, have declined substantially for males, but only moderately for females. The exception is British Columbia, where the rates for females have also decreased considerably [2].

The decrease in smoking prevalence is also happening in the United States. According to the AUTS (Adult Use of Tobacco Survey) the percent of current smokers in 1986 was lower than in 1975. In 1975, 41% of males and 31% of females were current smokers, as compared to 30% and 24% respectively, in 1986 [15].

## 5. DISCUSSION

### Prevalence

Twenty-eight percent of the adults in Nova Scotia were regular smokers (i.e., at least 1 cigarette per day) at the time the survey was administered. The smoking prevalence rate for males and females was the same, though males smoked more per day than females.

The smoking prevalence rate in Nova Scotia has decreased since 1979 (Table 17 [p. 34], Figure 1). In previous studies the prevalence rates for males were higher than those for females. Therefore, although prevalence rates have decreased over time the rates have decreased faster for males than females.

In this study current smokers were younger, had lower

educational levels and had lower household income levels than both former and never smokers. In the Newfoundland study those more likely to quit smoking were older, more educated and male [13].

The heaviest smokers in this study were older, had lower educational levels and had lower household income.

The lower educational levels and lower household income groups are harder to reach and this is demonstrated by these smoking statistics. These groups require special strategies to reduce the prevalence of smoking.

Most of those sampled correctly agreed with the statement that 'Children of smokers are more likely to smoke than children of non-smokers' [11, 14]. Yet a high percentage of smokers smoke in front of their children. Parents have to be made aware of the fact that they play an important role model for their children.

### Quit Attempts

Most of those who ever smoked have tried to quit. Other studies have indicated that repeated quit attempts increase a person's chances of becoming a successful quitter [4, 6]. The data from this study showed that current smokers had tried to quit more times than former smokers. The difference could result because current and former smokers may have different meanings for 'serious quit attempts'. Or it could be that current smokers differ in factors such as the degree of addiction or motivation to quit.

The most cited reason for quitting was a person's present and/or future health. In fact most cited their present health as

a reason to quit. It appears that the effects of smoking on health persuaded people to quit after they had some adverse effects on their health from smoking.

Most of those who made quit attempts stopped 'cold turkey'. Studies show that those who are the most successful are those who prepare themselves to quit and quit 'cold turkey' [6].

The most cited reason for starting to smoke again was irritability. This reason was cited more by females than males. Since tobacco is addicting it is reasonable to assume that when you quit you will have withdrawal symptoms; irritability being one [18]. Quitters have to be made aware of how to cope with withdrawal symptoms and thus avoid relapse.

The second most cited reason for starting to smoke again was because family and/or friends smoked. Again this reason was cited more by females than males. These data back up the idea that a quitter needs support from family and friends to successfully quit smoking.

### Health Hazards

It is somewhat disheartening that people are not aware of how dangerous it is to use tobacco, especially in comparison to other health risks. For example, 30% of the sample incorrectly believed that air pollution is a greater health risk than smoking. Tobacco causes 80% of lung cancer, which is usually fatal [4]. In the Multiple Risk Factor Intervention Trial (MRFIT) study they found that smoking was a greater risk factor in lung cancer than

environmental pollution [9]. As well studies have shown that smoking is more of a risk factor in cardiovascular disease than being overweight [8].

These statistics indicate that the tobacco industry has been successful in minimizing the risk of smoking by placing it in the context of lower risks to health. This is the result of a well documented campaign by the tobacco industry [22]. This minimization of risk and the lower degree of recognition of the importance of second hand smoke suggests that health education campaigns must be evaluated to ascertain why fundamental messages are not getting through.

### Smoking Restrictions

There was popular support for municipalities to pass by-laws restricting smoking in public places and to restrict smoking in the workplace. Smoking restrictions protect non-smokers from second-hand smoke and half the sample believed that they help influence smokers to quit.

### Summary

It is encouraging that the prevalence of smoking in Nova Scotia continues to drop and that smokers are attempting to quit. It is disheartening that adolescent Nova Scotians are taking up smoking in spite of the known risks and the desire of the majority of current smokers to quit.

Clearly, a much broader and more aggressive campaign must be waged against the number one health risk to Nova Scotians.

**TABLE 1**
**SMOKING STATUS OF NOVA SCOTIANS**
**1990**

| | Sample | 95% Confidence Interval |
|---|---|---|
| Current Smokers | 28% | 26%-30% |
| Former Smokers | 21% | 19%-23% |
| Never Smokers | 51% | 49%-54% |
| Quit Ratio* | 0.42 | 0.40-0.44 |
| Sample Size | 1597 | |

*The ratio of former smokers to ever smokers (former and current smokers).

**TABLE 2**
**SMOKING STATUS**
**BY SOCIO-DEMOGRAPHIC VARIABLE**
**1990**

| | SMOKING STATUS | | | Quit | Sample |
|---|---|---|---|---|---|
| | Current | Former | Never | Ratio@ | Size |
| TOTAL | 28 | 21 | 51 | .42 | 1597 |
| SEX | | | | | |
| Male | 29 | 26 | 46 | .47 | 677 |
| Female | 28 | 17 | 55 | .38 | 908 |
| AGE | | | | | |
| 17-19 | 20 | 11 | 69 | .35 | 55 |
| 20-24 | 30 | 10 | 60 | .24 | 116 |
| 25-34 | 31 | 20 | 49 | .39 | 395 |
| 35-44 | 32 | 20 | 48 | .39 | 370 |
| 45-54 | 30 | 21 | 49 | .41 | 214 |
| 55-64 | 30 | 28 | 41 | .48 | 181 |
| 65+ | 17 | 23 | 60 | .58 | 260 |
| EDUCATION | | | | | |
| 0-8 | 32 | 25 | 43 | .43 | 151 |
| Sec & Some Sec. | 33 | 21 | 46 | .38 | 788 |
| Some Post | 19 | 19 | 62 | .51 | 139 |
| Post Sec. | 26 | 22 | 52 | .46 | 218 |
| Univ. | 18 | 18 | 64 | .50 | 286 |
| R.C.* | 47 | 7 | 47 | .12 | 15 |
| HOUSEHOLD INCOME (000s) | | | | | |
| < $10 | 28 | 19 | 53 | .41 | 126 |
| $10-19 | 35 | 21 | 44 | .37 | 306 |
| $20-29 | 29 | 18 | 53 | .38 | 297 |
| $30-39 | 32 | 19 | 49 | .38 | 269 |
| $40-49 | 23 | 24 | 53 | .51 | 172 |
| $50+ | 21 | 25 | 54 | .54 | 232 |
| R.C.** | 25 | 19 | 56 | .42 | 193 |

@The ratio of former smokers to former plus current smokers.
*Refused comment.
**Refused comment or did not know household income.

**TABLE 3**
**SMOKING STATUS BY HEALTH UNIT**
**1990**

| HEALTH UNIT | SMOKING STATUS Current % | Former % | Never % | Quit Ratio@ | Sample Size |
|---|---|---|---|---|---|
| Atlantic | 27 | 19 | 55 | .41 | 562 |
| 95% CI* | 23-31 | | | | |
| Cape Breton | 35 | 20 | 44 | .36 | 305 |
| 95% CI | 30-40 | | | | |
| Cobequid | 31 | 21 | 48 | .40 | 148 |
| 95% CI | 24-38 | | | | |
| Fundy | 27 | 20 | 53 | .43 | 207 |
| 95% CI | 21-33 | | | | |
| Lunenburg-Queens | 21 | 20 | 58 | .49 | 108 |
| 95% CI | 13-29 | | | | |
| Northumberland | 28 | 24 | 47 | .46 | 144 |
| 95% CI | 21-35 | | | | |
| Western | 24 | 24 | 52 | .51 | 123 |
| 95% CI | 16-32 | | | | |

@The ratio of former smokers to former plus current smokers.
*95% confidence interval.

**TABLE 4**
**DEMOGRAPHIC PROFILE BY SMOKING STATUS**
**1990**

| | Current | Former | Never |
|---|---|---|---|
| **AGE** | | | |
| Average | 41 | 47 | 44 |
| 17-19 | 2% | 2% | 5% |
| 20-24 | 8 | 3 | 9 |
| 25-34 | 28 | 24 | 24 |
| 35-44 | 26 | 23 | 22 |
| 45-54 | 14 | 14 | 13 |
| 55-64 | 12 | 16 | 9 |
| 65+ | 10 | 18 | 19 |
| TOTAL | 100 | 100 | 100 |
| **EDUCATION** | | | |
| 0-8 | 11 | 11 | 8 |
| Some Sec. | 59 | 50 | 45 |
| Some Post | 6 | 8 | 11 |
| Post Sec. | 13 | 15 | 14 |
| Univ. | 12 | 16 | 22 |
| TOTAL | 100 | 100 | 100 |
| **HOUSEHOLD INCOME (000s)** | | | |
| < $10 | 9 | 8 | 9 |
| $10 - 19 | 27 | 22 | 19 |
| $20 - 29 | 21 | 18 | 22 |
| $30 - 39 | 21 | 18 | 19 |
| $40 - 49 | 10 | 14 | 13 |
| $50+ | 12 | 20 | 18 |
| TOTAL | 100 | 100 | 100 |

## TABLE 5
## CIGARETTES PER DAY - CURRENT SMOKERS
## 1990

| Cigarettes per Day | Total | |
|---|---|---|
| **Total (Sample Size = 446)** | | |
| Mean | 19 | S.D.+ 11 |
| Distribution | | 95% C. I.* |
| 1 - 10 | 24% | 20-28% |
| 11 - 25 | 68 | 64-72 |
| Over 25 | 8 | 5-11 |
| **Males (Sample Size = 192)** | | |
| Mean | 21 | S.D. 9 |
| Distribution | | 95% C. I.* |
| 1 - 10 | 19% | 13-25% |
| 11 - 25 | 68 | 61-75 |
| Over 25 | 13 | 8-18 |
| **Females (Sample Size = 253)** | | |
| Mean | 17 | S.D. 11 |
| Distribution | | 95% C. I.* |
| 1 - 10 | 28% | 22-34% |
| 11 - 25 | 67 | 61-73 |
| Over 25 | 5 | 2- 7 |

+Standard Deviation
*95% Confidence Interval

## TABLE 6
## SMOKING SPECTRUM FOR NOVA SCOTIA, 1990

| | Percentage of Sample % | Percentage of Ever Smokers % |
|---|---|---|
| Never Smokers | 51 | |
| Former Smokers | | |
| Who Quit For: | | |
| 4+ Mos | 18 | 37 |
| 0-3 Mos | 2 | 4 |
| Current Smokers: | | |
| Have Tried In Past Year But Relapsed After: | | |
| 7+ Days | 10 | 20 |
| 1-6 Days | 3 | 7 |
| Have Tried But Not In Past Year | 9 | 18 |
| Never Tried But Thought About It | 3 | 7 |
| Never Tried & Never Thought About It | 4 | 7 |
| Total | 100% | 100% |
| SAMPLE SIZE | 1592 | 773 |

## TABLE 7
## QUIT ATTEMPTS

| Attempts to Quit Smoking | Former Smokers | | | Current Smokers | | |
|---|---|---|---|---|---|---|
| | Total | Males | Females | Total | Males | Females |
| 1-2 Times | 63% | 59% | 67% | 50% | 52% | 48% |
| 3-5 Times | 24 | 27 | 20 | 34 | 35 | 32 |
| 6+ Times | 14 | 14 | 13 | 16 | 13 | 20 |
| TOTAL | 100% | 100% | 100% | 100% | 100% | 100% |
| Sample Size | 324 | 172 | 152 | 342 | 96 | 190 |

**TABLE 8**
**REASON FOR QUITTING SMOKING**
**BY RANK OF IMPORTANCE**

| Reason | Very Important % | Somewhat Important % | Not Important % |
|---|---|---|---|
| Sample Size = 718 | | | |
| Concern for Future Health | 70 | 19 | 11 |
| Concern for Current Health | 72 | 17 | 11 |
| Cost of Cigarettes | 45 | 22 | 36 |
| Considered it a Dirty Habit | 35 | 24 | 41 |
| Effect Smoking Has On Others | 20 | 36 | 44 |
| Concern For Children's Health* | 38 | 12 | 49 |
| Setting a Good Example For Your Children* | 32 | 17 | 51 |
| Lost the Desire | 16 | 21 | 63 |
| Pressure From Family/Friends | 15 | 21 | 64 |
| Advice From Doctor | 15 | 13 | 72 |
| Pregnancy* | 13 | 6 | 81 |
| Other | 7 | 2 | 91 |

*The not important category includes respondents who do not have children and who have not been around someone who was pregnant.

TABLE 9
REASON FOR QUITTING - COST OF CIGARETTES
BY HOUSEHOLD INCOME

| Household Income | Very Important % | Somewhat Important % | Not Important % | Sample Size |
|---|---|---|---|---|
| < $10,000 | 55 | 16 | 29 | 58 |
| $10,000-19,999 | 44 | 20 | 36 | 153 |
| $20,000-29,999 | 45 | 24 | 31 | 123 |
| $30,000-39,999 | 42 | 27 | 32 | 130 |
| $40,000-49,999 | 33 | 33 | 33 | 78 |
| $50,000+ | 35 | 16 | 49 | 102 |
| Refused Comment | 37 | 21 | 41 | 75 |

TABLE 10
REASON FOR QUITTING - ADVICE FROM DOCTOR
BY AGE GROUP

| Age Group | Very Important % | Somewhat Important % | Not Important % | Sample Size |
|---|---|---|---|---|
| 17-19 | 7 | 7 | 86 | 14 |
| 20-24 | 9 | 5 | 86 | 42 |
| 25-34 | 11 | 16 | 73 | 190 |
| 35-44 | 11 | 16 | 73 | 181 |
| 45-54 | 15 | 15 | 71 | 102 |
| 55-64 | 24 | 7 | 68 | 95 |
| 65+ | 25 | 7 | 68 | 93 |

TABLE 11
REASON FOR STARTING AGAIN BY RANK OF IMPORTANCE

| Reason | Very Important % | Somewhat Important % | Not Important % |
|---|---|---|---|
| Sample Size = 430 | | | |
| Irritability | 33 | 26 | 40 |
| Family/Friends Smoke | 27 | 25 | 48 |
| Difficulty in Getting Along With Others | 18 | 16 | 66 |
| Inability to Concentrate | 17 | 16 | 67 |
| Other | 24 | 4 | 71 |
| Possibility of Gaining Weight | 11 | 13 | 76 |
| Actual Weight Gain | 9 | 12 | 79 |

TABLE 12

METHODS USED TO QUIT BY ORDER OF PERCENTAGE USING METHOD

| Method | Percentage Using Method % |
|---|---|
| 'Cold Turkey' | 89 |
| Gradually Decreased Number Smoked | 26 |
| Lower Tar & Nicotine Cigarettes | 14 |
| Nicorette | 14 |
| With Friends, Relatives or Acquaintances | 9 |
| Other Methods | 5 |
| Hypnosis | 4 |
| Special Filters or Holders | 4 |
| Instructions From Pamphlet/Booklet | 4 |
| Laser Treatment | 3 |
| Substitute Other Tobacco Products | 3 |
| Program or Course | 3 |
| Acupuncture | 3 |
| Other Non-Prescription Products | 2 |
| Life Sign | 1 |
| Psychologist or Psychiatrist | 1 |
| Sample Size | 666 |

TABLE 13
ATTITUDES AND KNOWLEDGE RELATING TO SMOKING

| Statement | Agree % | Disagree % | Don't Know % |
|---|---|---|---|
| Sample Size = 1595 | | | |
| **Smoking Prevalence** | | | |
| Too Much Fuss Made About Degree of Smoking | 30 | 67 | 3 |
| Children of Smokers More Likely To Smoke | 64 | 27 | 9 |
| Fewer Young People Are Starting To Smoke | 47 | 42 | 11 |
| If Cigarettes Were Not Advertised Anywhere Fewer Young People Would Start to Smoke | 47 | 46 | 7 |
| **Health Hazards** | | | |
| Smoking Helps Control Weight | 25 | 66 | 9 |
| Air Pollution is a Greater Health Risk Than Smoking | 29 | 49 | 22 |
| Being 20lbs Overweight is a Greater Health Risk Than Smoking | 17 | 68 | 15 |
| Smoking by Pregnant Women May Harm the Baby | 92 | 3 | 5 |
| Children of Smokers Have More Chest Infections Than Children of Non-Smokers | 60 | 16 | 24 |
| Smokers are More Likely to Get Heart Disease | 85 | 8 | 7 |
| Smokers are More Likely to Get Lung Cancer | 93 | 4 | 3 |
| Smokers are More Likely to Get Bronchitis | 85 | 6 | 9 |
| **Smoking Restrictions** | | | |
| Smoking Restrictions Help People Quit | 51 | 43 | 6 |
| Municipalities Should Pass By-Laws Restricting Smoking in Public Places | 73 | 24 | 3 |
| People Should be Able to Smoke at Work Anytime They Like | 10 | 87 | 3 |
| People Should Only Smoke in Designated Areas | 91 | 8 | 1 |

TABLE 14
SELECTED ATTITUDE AND KNOWLEDGE STATEMENTS
BY AGE GROUP

| Age Group | Children of Smokers More Likely to Smoke % | Smoking Helps Control Weight % | Sample Size |
|---|---|---|---|
| 17-19 | 78 | 15 | 55 |
| 20-24 | 73 | 16 | 116 |
| 25-34 | 68 | 18 | 395 |
| 35-44 | 67 | 27 | 370 |
| 45-54 | 64 | 24 | 214 |
| 55-64 | 55 | 38 | 181 |
| 65+ | 54 | 32 | 259 |

TABLE 15
LENGTH OF TIME TILL SMOKERS HEALTH RETURNS TO THAT OF NON-SMOKER

| Length of Time | Distribution % |
|---|---|
| < 1 Year | 10 |
| 1-5 Years | 35 |
| 6-10 Years | 17 |
| 11+ Years | 6 |
| Never | 9 |
| Don't Know | 23 |
| TOTAL | 100 |
| Sample Size | 1590 |

TABLE 16
HOW ACTIVE SHOULD THE DEPARTMENT OF HEALTH AND FITNESS BE?

| How Active? | Total % | Never % | Former % | Current % |
|---|---|---|---|---|
| More | 57 | 63 | 55 | 47 |
| Less | 37 | 35 | 37 | 43 |
| Same | 5 | 2 | 6 | 8 |
| Don't Know | 1 | 1 | 2 | 2 |
| Total | 100 | 100 | 100 | 100 |
| Sample Size | 1594 | 818 | 327 | 450 |

**TABLE 17**
**HISTORICAL TRENDS IN SMOKING PREVALENCE**
**NOVA SCOTIA AND CANADA**

| Year | Survey | Sample | NS | Conf. Int. for NS | Canada |
|---|---|---|---|---|---|
| 1979 | Canada Health Survey (CHS '79) | 15+ | 41% | 38-44% | 37% |
| 1981 | Labour Force Survey (LFS '81) | 15+ | 34 | 32-36% | 33 |
| 1985 | Health Promotion Survey (HPS '85) | 15+ | 32 | 29-35% | 30 |
| 1985 | General Social Survey (GSS '85) | 15+ | 33 | 30-36% | 30 |
| 1986 | Labour Force Survey (LFS '86) | 15+ | 31 | 29-33% | 28 |
| 1986 | Nova Scotia Heart Health Survey (NSHHS '86) | 18-74 | 32 | 30-34% | NA |
| 1990 | Nova Scotia DOHF Smoking Survey (DOHFSS '90) | 17+ | 28 | 26-30% | NA |

NS: Nova Scotia.
NA: Not Applicable.

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